NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

2023

COMMUNICABLE DISEASES COMMUNIQUÉ

APRIL 2023, VOL.22(4)

NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

TABLE OF CONTENTS

EDITOR'S NOTE	1
QUICK UPDATES	2
Measles, South Africa	3
Cholera, South Africa	3
ZOONOTIC AND VECTOR-BORNE DISEASES	3
Rabies	3
Malaria case notification trend in South Africa during the 2022/2023 malaria season	5
RESPIRATORY DISEASES	6
Respiratory syncytial virus (RSV): activity appears to be peaking	6
Increase in pertussis cases, April 2023	7
ENTERIC DISEASES	9
Enteric fever update, South Africa, 2023	9
HIV & STIs	12
Trends in bacterial vaginosis positivity by HIV status, 2019-2022	12
VACCINES AND IMMUNOLOGY	13
Poliomyelitis updates	13
BEYOND OUR BORDERS	14
Mpox	14
COVID-19	14
Marburg virus disease – African Region	14
Cholera – African Region	14
Lassa fever - Nigeria	15
WHO AFRO UPDATE	17

APRIL 2023, VOL.22(4)

EDITORIAL

Editor's Note – Dr Michelle Groome

The first third of 2023 is already behind us and the winter months are fast approaching. The respiratory syncytial virus (RSV) season started in February and while the peak appears to have passed, case numbers are still relatively high. The RSV season usually precedes the influenza season so there's still time to get your influenza vaccine before the flu cases start increasing. World Malaria Day, celebrated each year on 25th April, is an opportunity to highlight the need for continued investment and sustained political commitment for malaria prevention and control. In South Africa, malaria cases started increasing in September 2022, peaking in January 2023 after the Christmas break due to increased travel to and from malaria-endemic regions. Three additional cases of human rabies were confirmed from KwaZulu-Natal and Eastern Cape provinces, bringing the total confirmed human rabies cases this year to five. Rabies is preventable and post-exposure prophylaxis is an urgent and lifesaving intervention for the prevention of rabies in humans.

In this month's edition, we provide updates on pertussis cases in South Africa as well as the clusters of enteric fever in the North West and Gauteng provinces, and describe recent trends in bacterial vaginosis, the commonest cause of vaginal discharge syndrome among women of reproductive age. There is also an update on poliomyelitis testing in the African Region. The "Beyond our Borders" section focuses on what's happening globally with mpox and COVID-19, as well as cholera and viral haemorrhagic fever outbreaks on the African continent.

We continue our series of reflections: this month Prof Lucille Blumberg looks back over the past 20 years' of the Communiqué with some personal anecdotes. The NICD Communiqué, in its current format, will be coming to an end towards the middle of the year. Although we will be changing the way in which we provide you with pertinent updates, be assured that you will always have timeous access to important infectious disease information. Updates on current outbreaks, such as measles and cholera, are already being shared on a regular basis, and more detailed updates will be provided in the Public Health Bulletin of South Africa, which is undergoing a makeover. We will be providing you with more information on all the changes in the coming months to ensure a smooth transition.

Enjoy the April edition!

REFLECTION

Professor Lucille Blumberg – A personal look back

The NICD COMMUNIQUÉ was first published in October 2002 and its contents have provided a unique record of communicable diseases events over the past 20 years, chronicling the NICD's work and communicable diseases of public health importance, both in the region and globally. Outbreaks, pandemics, surveillance programmes, laboratory and management guidelines were detailed at least monthly. The case reports, outbreak and surveillance data have served as a valuable resource for formal publications and presentations; East African trypanosomiasis is a prime example. So many contributed to gathering information and sharing it, often real-time, long before social media broke the news so that health practitioners could be ahead of the proverbial outbreak curve. Deadlines were tough, and breaking news and 'last minute' updates were often added just as the 'send' button was being pressed. I am so proud of the editors, contributors and administrators who made this possible, always in a calm way and without ever missing a monthly edition. I would like to make special mention of the superb contributions of editors Gill de Jong, Kerrigan McCarthy and Juno Thomas, who led the Outbreak Response Unit within the Division of Public Health Surveillance when I was its founding head. Administrators Liz Millington and Irma Latsky, and the Communications team at NICD, formatted and fixed layout and pressed the send keys to our readers. Ayanda Cengimbo and Brett Archer hustled and hassled for contributions from the NICD centres and others. John Frean always ensured we never had unnecessary apostrophes, commas or capitals, and crossed the 't's and dotted the 'i's.

The Communiqué provided 'breaking news', rapid response guidelines and epidemiological updates for outbreaks in South Africa as well as for the region, such as rabies, malaria, Ebola, cholera and of course more recently listeriosis and COVID-19. The period 2008-2010 stands out as a particularly busy time and demanded both responses on the ground and frequent communications through the monthly Communiqué and special editions. The Lujo virus, a newly recognised arenavirus, which emerged in Zambia and was imported into Johannesburg, gave rise to a hospital-related outbreak; a One Health outbreak of Rift Valley fever affected mainly livestock and farm, abattoir and animal health workers; there were massive outbreaks of measles and cholera in South Africa, as well as the influenza A H1N1 pandemic. Health guidelines, updates and incidents related to the 2010 FIFA World Cup tournament occupied lots of print space.

Communications are key to health security and preventing, reporting and responding to communicable disease health threats. I am so proud of the role played by the Communiqué in providing timely, accurate and reliable information over the past 20 years.

QUICK UPDATES

Measles, South Africa

The ongoing measles outbreak which began in October 2022, has resulted in a cumulative total of 960 laboratory-confirmed cases (as of 20 April 2023). All provinces, apart from Eastern Cape Province, have declared measles outbreaks. In the provinces that have declared outbreaks, the most affected age groups are as follows: 5-9 year olds (43%), 1-4 year olds (24%) and 10-14 year olds (20%).

For update case numbers and more information on the outbreak, please visit the NICD alerts page (https://www.nicd.ac.za/media/alerts/).

Source: https://www.nicd.ac.za/south-african-measles-outbreak-update-2023-20-april-2023/

Cholera, South Africa

Gauteng Province declared a cholera outbreak on 05 February 2023, following confirmation of two imported cases from Malawi. As of 25 April 2023, the province has recorded a total of 11 laboratory-confirmed cases of cholera and one death. Isolates from eight confirmed cases were identified as *V. cholerae* O1 serotype Ogawa.

For update case numbers and more information on the outbreak, please visit the NICD alerts page (https://www.nicd.ac.za/media/alerts/).

Source: https://www.nicd.ac.za/update-outbreak-of-cholera-in-south-africa-30-march-2023/

ZOONOTIC AND VECTOR-BORNE DISEASES

Rabies

Between 25 March and 24 April 2023, three cases of human rabies were confirmed from KwaZulu-Natal (KZN) and Eastern Cape (EC) provinces collectively. This leads to a total of five confirmed human rabies cases in this year to date. These cases were reported form EC (n=2), KZN (n=2) and Limpopo (LPP) (n=1). This compares with the seven human rabies cases (EC=5, KZN=1, LPP=1) that were reported for the same time period last year from the same provinces. Brief case reports for the recently reported cases follows.

For the first case, a family-owned dog bit the wrist of a 28-year-old man from Malinda, East London (Buffalo City district, EC) in December 2022. The dog's owner had tied it up for the SPCA to take it away because it had been behaving strangely when the bite event happened. The dog tested positive for rabies. Reportedly the bite victim only received a single dose of rabies vaccine. The diagnosis of rabies was confirmed through RT-PCR testing of two ante-mortem collected saliva samples. The second case involved a 46-year-old man from Cliffdale (eThekwini district, KZN) who suffered a dog bite to his leg in February 2023. The dog was put down and no laboratory testing was conducted. The rabies vaccination status of the animal could not be confirmed. Reportedly the bite victim did receive rabies post-exposure prophylaxis (PEP) but this could not be confirmed. The clinical diagnosis of rabies was confirmed through RT-PCR testing of an ante-mortem collected saliva sample. The third case a 14-year-old female, who was bitten and suffered many injuries to her neck

and face on 17 February 2023. The same dog attacked several children and an adult in the same week at Mjobeni, Libode (OR Tambo district EC), but because it was a stray, veterinary officials who were later called to the scene were unable to locate it for collection and testing. Following the biting events, all of the children received medical attention and reportedly rabies PEP was initiated although rabies immunoglobulin was not provided/not available at the time. A post-mortem brain sample tested positive for rabies following a direct rabies antigen test.

Rabies PEP is an urgent and lifesaving intervention for the prevention of rabies in humans. Rabies PEP is considered for all animal bite/injury victims and if the risk of rabies is high, PEP has to be initiated as an emergency treatment measure. PEP includes cleaning the wound and administering RIG (in cases where the skin has been breached, i.e. injuries that drew any amount of blood). This is followed by a series of rabies vaccinations, administered on days 0, 3, 7 and any day between day 14-28. RIG is not indicated if: an individual is previously immunised (unless immunocompromised); more than seven days have passed since the first dose of rabies vaccine. For more information on rabies and rabies PEP, please visit the NICD website at www.nicd.ac.za.

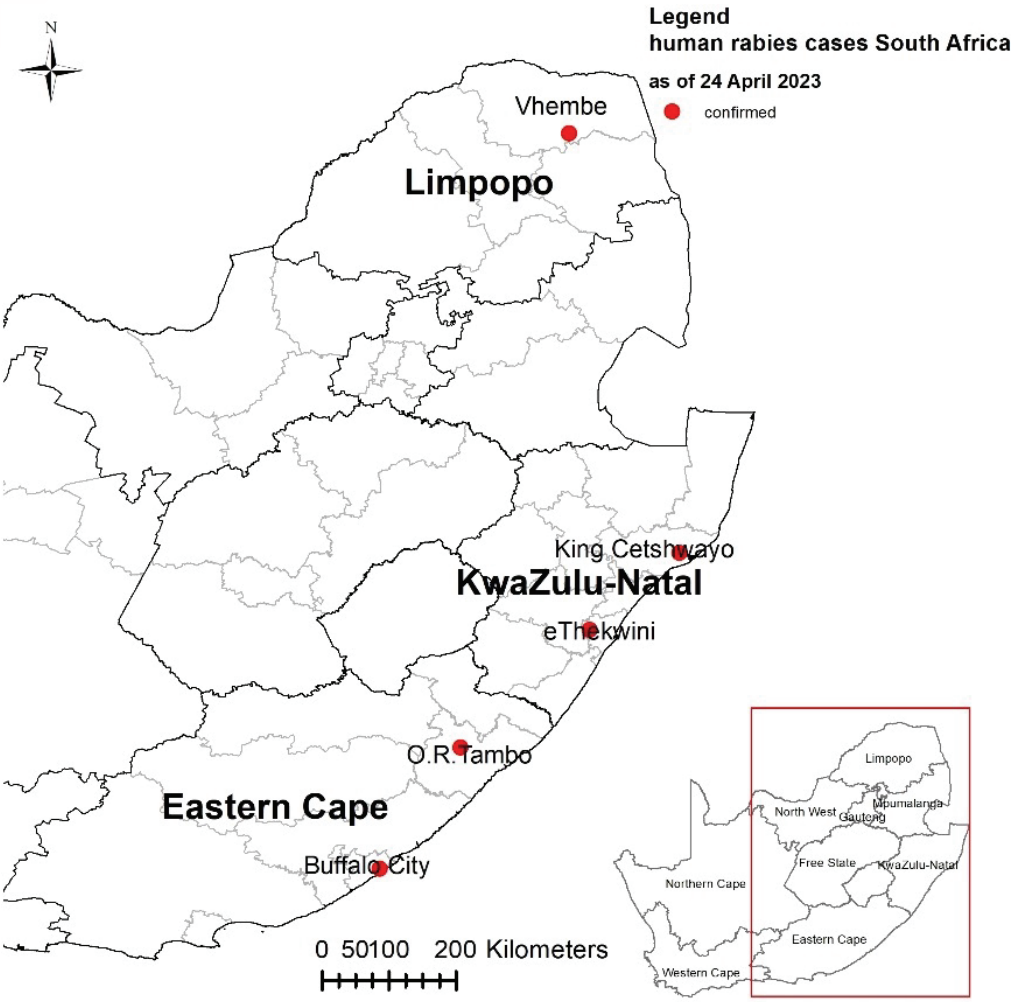

Figure 1. Human rabies case distribution for the current year as of 24 April, 2023, in South Africa.

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; veerlem@nicd.ac.za, jacquelinew@nicd.ac.za

ZOONOTIC AND VECTOR-BORNE DISEASES

Malaria case notification trend in South Africa during the 2022/2023 malaria season

World Malaria Day, commemorated annually on 25 April, which aims to raise malaria awareness, unfortunately falls at the tail-end of the malaria season in South Africa. Based on the number of malaria cases reported through the Notifiable Medical Conditions (NMC) system, malaria followed the traditional epidemiological trend this season (Figure 2), with the caveat that there is under-reporting of malaria cases from certain provinces through the NMC. Cases began increasing in September (Figure 2), peaking in January after the Christmas break due to increased travel to and from malaria-endemic regions. Although the epi-trend was similar for the 2021/2022 and 2022/2023 seasons, a 22% increase in case numbers was observed in the 2022/23 season (September to March) compared to the same period in the 2021/22 season. This increase is most likely a consequence of increased cross-border movement associated with the lifting of all COVID-19-related travel restrictions. Limpopo Province continues to be the malaria-endemic province notifying the highest number of cases and was the only endemic province to report more cases this season compared to last season. To date, 1 783 cases have been notified in Limpopo Province compared to the 479 cases reported by KwaZulu-Natal, the endemic province closest to halting local malaria transmission. Gauteng Province remains the non-endemic province reporting the highest number of cases, with 965 this season compared to 830 for the same period last season.

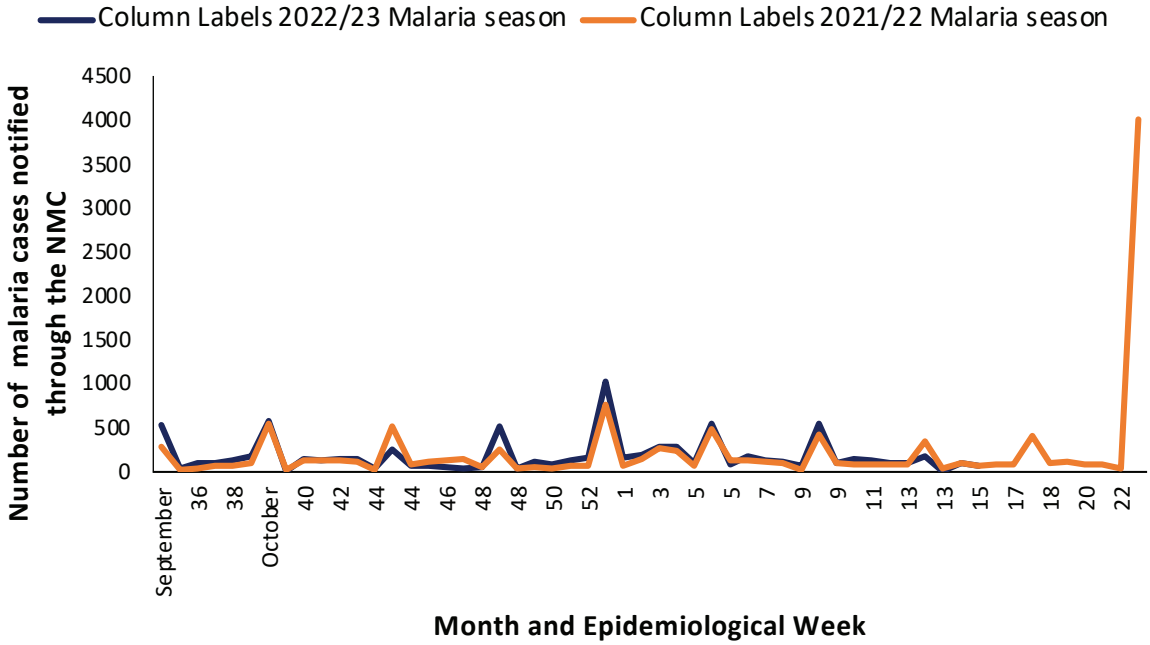

Figure 2. Total number of malaria cases notified in South Africa through the Notifiable Medical Conditions (NMC) system by epidemiologic week and month for the 2021/2022 and 2022/2023 malaria seasons (NMC data for 2022/23 only available up to week 15, week ending 15 April 2023)

South Africa typically experiences an uptick in malaria cases after the Easter break, so extra vigilance is recommended for individuals residing in or with recent travel to a malaria-endemic area. Any such person with a fever or 'flu-like illness should promptly visit a healthcare provider and be tested for malaria, either by rapid diagnostic test or blood smear microscopy. Malaria rapidly progresses to severe disease so early diagnosis and prompt treatment ensure the most favourable outcome.

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; maxwellm@nicd.ac.za; jaishreer@nicd.ac.za

RESPIRATORY DISEASES

Respiratory syncytial virus (RSV): activity appears to be peaking

In 2023, the RSV season began in week 6 (week starting 6 February), when the RSV detection rate among hospitalized children aged <5 years with lower respiratory tract illness at sentinel sites breached the low threshold level. The season appeared to peak in week 12 (week starting 20 March 2023), with activity reaching the very high level, but is ongoing. Although the numbers of cases testing positive appears to be declining, this may be due to decreased testing during the Easter holiday weekend (Figure 3). The RSV season usually precedes the influenza season, starting between the beginning of February and mid-March, with the mean peak of the season in mid-April.

RSV activity among children aged <5 years is currently at moderate level as determined by Moving Epidemic Method (MEM) (Figure 4). As of week 14 (week ending 9 April), 17% (435/2 573) of cases tested positive for RSV across all ages, 9% (37/394) in the influenza-like illness (ILI) and 18% (398/2 179) in Pneumonia Surveillance (PSP) Programmes respectively. The majority of RSV positive cases were subgroup A (338/435, 78%), followed by subgroup B (83/435, 19%), subgroup A and B (1/435, 0.2%), inconclusive typing (2/435, 0.5%), and for 11 (11/435, 3%) subtyping was yet to be determined.

Among children aged <5 years, 36% (412/1 131)) of cases tested positive for RSV with 36 (36/162, 22%) from ILI surveillance and 376 (376/969, 39%) from PSP. The Western Cape Province had the most cases (185/412, 45%), followed by Gauteng (110/412, 28%), KwaZulu-Natal (72/412, 17%) and Mpumalanga (31/412,8 %). The majority of RSV positive cases were subgroup A (322/412, 78%), followed by subgroup B (78/412, 19%), subgroup not yet determined (10/412, 2%), RSV A and B (1/412, 0.2%) and inconclusive (1/412, 0.2%). Of the 329 children aged <5 years hospitalised with RSV-associated severe respiratory illness, with outcome data, one died. Of the 350 with severity indicator data, 244 (70%) received oxygen and 2 (1%) were admitted to ICU.

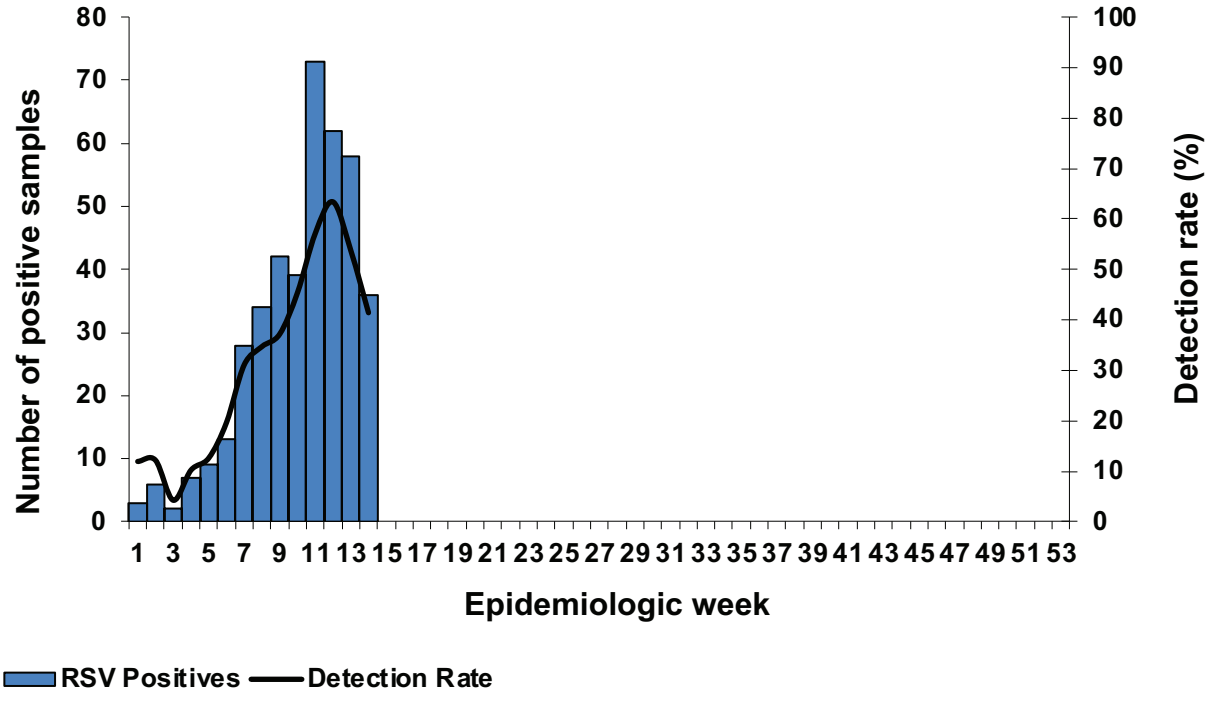

Figure 3. Respiratory syncytial virus positive samples and detection rate* among children aged<5 years by epidemiologic week, Severe Respiratory Illness (SRI) surveillance, South Africa 2023 *Detection rate is number positive/total tested

RESPIRATORY DISEASES

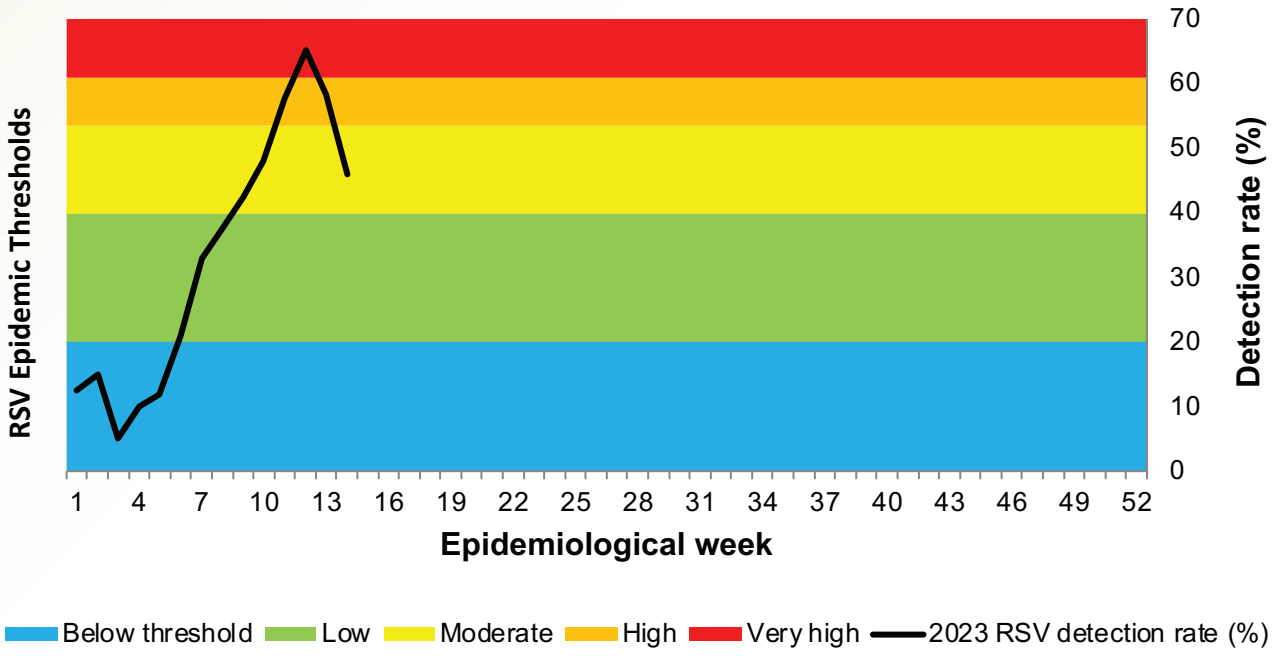

Figure 4. Respiratory syncytial virus percentage detections* and epidemic thresholds** among children aged < 5 years, Severe Respiratory Illness (SRI) surveillance, South Africa 2023 *Detection rate is number positive/total tested **Thresholds based on 2010-2019 data

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; thendor@nicd.ac.za

Update on increase in pertussis cases in South Africa, April 2023

There has been a significant increase in *Bordetella pertussis* (pertussis) cases detected in the pneumonia surveillance program (PSP) in 2022/2023 compared to the COVID-19 pandemic years (2020/2021). Overall 0.1% (2/3 779) of patients enrolled into pneumonia surveillance tested positive for pertussis from 1 January to 30 June 2022. The increase in detection of pertussis cases started from 1 July 2022, with the detection rate peaking at 2.9% (176/6 071) for the period through 19 April 2023. The highest number of pertussis cases was recorded in November 2022 (14,2%, 25/176) followed by January 2023 (13.6%, 24/176). Since January 2023, the number of positive cases appears to be decreasing (February (8.5%,15/176), March (10.2%, 18/176) and April (1.7%, 3/176)) (Figure 5).

Initially most cases were reported in Western Cape Province (WC) and cases from WC still account for the majority overall (60.2%,106/176). However, since the beginning of 2023, cases have been reported more widely across the provinces with Gauteng (GP) and North West (NW) reporting the same number of cases (20%,12/60 each) and both KwaZulu-Natal (KZN) and Mpumalanga (MP) reporting 10 cases each (16.7%, 10/60 each).

The majority of cases were in children aged <5 years (75.6%, 133/176) and, of these, 68.4% (91/133) were children aged <3 months. During the reporting period there were five deaths reported (case fatality ratio (CFR) 2.9%, 5/171), a child <3 months of age from MP, a 49-year-old male from GP, a 16-year-old male from NW, a 34-year-old male from WC and a 44-year-old male from WC. All individuals aged >5 years who died had significant underlying conditions. Of the 103 (59.1%, 104/176) pertussis positive cases aged <5 years with documented vaccination data available, (58.7% ,61/104) were vaccinated

RESPIRATORY DISEASES

In addition to the increase in pertussis cases identified at surveillance sites, there has been an increase in cases identified from the NMC surveillance system, some of these cases (5.7%, 83/1 467) were also enrolled into the pneumonia surveillance programme (notification of pneumonia surveillance cases is ongoing). From 1 January to 30 June 2022, there were 33 pertussis positive cases notified on NMC. Similar to the PSP, an increase in reported cases started from 1 July 2022 through 19 April 2023, with 1 434 pertussis cases reported on NMC (Figure 6). Western Cape Province reported the highest number of cases (45.8%,657/1 434) initially and overall, similar to cases in the PSP. From 2023, cases are spread across the provinces, specifically GP (18.7%, 268/1 434), KZN (11.2%, 161/1 434) and MP (6.3% ,91/1 434) (Figure 6). The majority of cases (65.6%, 941/1 434) were in children aged <5 years and of those (67.2%, 632/941) were children aged <3 months. Among the 1 141 pertussis positive cases in the NMC database with data available on outcome, 20 deaths were reported, CFR (1.8%, 20/1 141) (excluding the 5 deaths reported above under pneumonia surveillance). Of the 20 people who died, 15 were children aged <5 years of whom 12 were children aged <3 months.

Pertussis, commonly known as 'whooping cough' is a vaccine-preventable disease caused by *Bordetella pertussis* and is a category 1 NMC. Clinicians are advised to be vigilant for cases, especially in very young children who may not present with typical symptoms of pertussis (cough and whoop). Immunity following vaccination lasts for approximately 5-6 years. Episodic increases in pertussis cases occur in vaccinated populations every 3-5 years. Completion of childhood primary series, Diphtheria, Tetanus and acellular-Pertussis (DTaP) and boosters is important for prevention. Healthcare workers should confirm the vaccination status of children and encourage vaccination. Clinicians are advised to be on the alert for cases, to conduct diagnostic testing where appropriate, to notify cases on the NMC app, prescribe post-exposure prophylaxis to close and high-risk contacts of suspected or confirmed cases, to vaccinate healthcare workers, and encourage pregnant woman to vaccinate where possible. Vaccination of healthcare workers against pertussis reduces transmission to vulnerable patients (e.g., neonates) and is recommended where resources are available. Maternal immunisation with acellular pertussis-containing vaccines (DTaP) is effective in preventing severe disease and mortality among young infants, before they receive their infant vaccines. NICD recommendations for pertussis diagnosis, management and public health response may be found on the NICD web page (http://www.nicd.ac.za/index.php/pertussis/). Notification forms can be accessed at http://www.nicd.ac.za/index.php/nmc/. An alert for increased pertussis cases was released on 13th of December 2022 (https://www.nicd.ac.za/an-increase-in-pertussis-cases-13-dec-2022/).

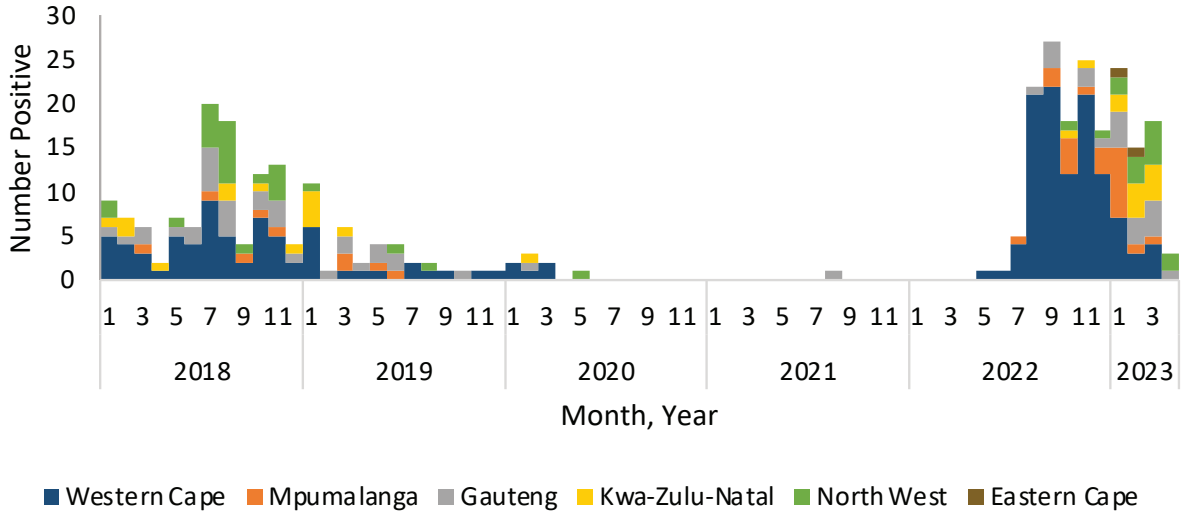

Figure 5. Number of laboratory-confirmed pertussis cases from pneumonia surveillance programme by year, month and province, South Africa 2018-2023

RESPIRATORY DISEASES

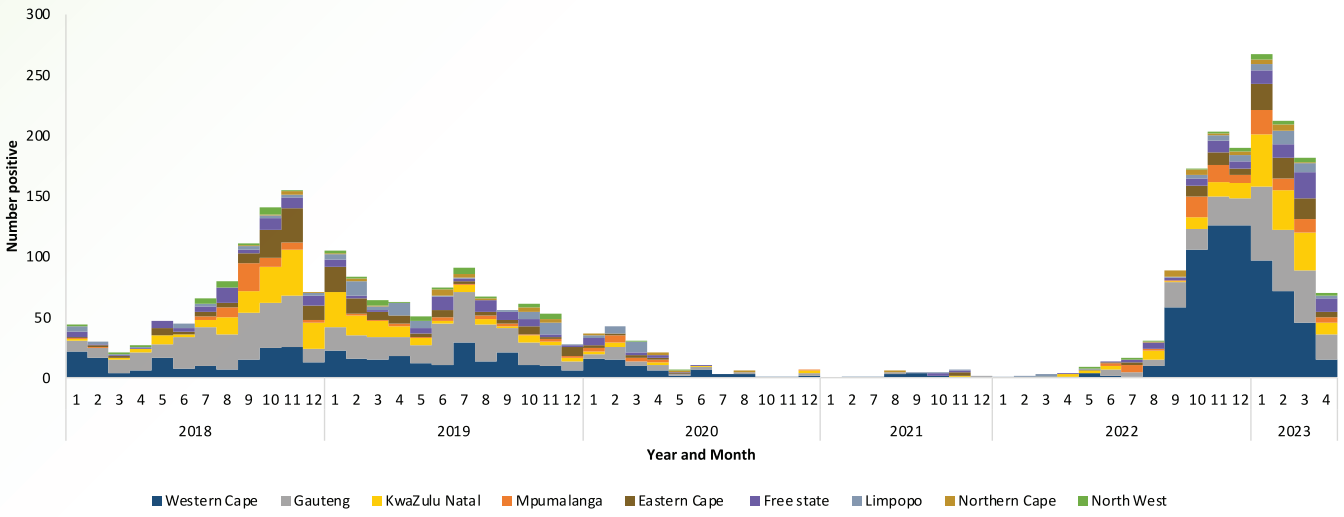

Figure 6. Number of notified pertussis cases from Notifiable Medical Conditions Surveillance System (NMC-SS) by year, month and province, South Africa, 2018-2023

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; namhlab@nicd.ac.za

ENTERIC DISEASES

Enteric fever update, South Africa, 2023

The most recent large outbreak of enteric fever in South Africa occurred in Delmas in 2005. From 2006 through 2021 the number of laboratory-confirmed enteric fever cases in South Africa averaged 99 cases per year (range 66 – 140 cases). In 2022, the number of laboratory-confirmed enteric fever cases increased dramatically with a total of 206 cases reported from eight provinces; Gauteng Province accounted for half of the cases (103, 50%) followed by Western Cape (43, 21%) and North West (25, 12%) provinces (Figure 7).

ENTERIC DISEASES

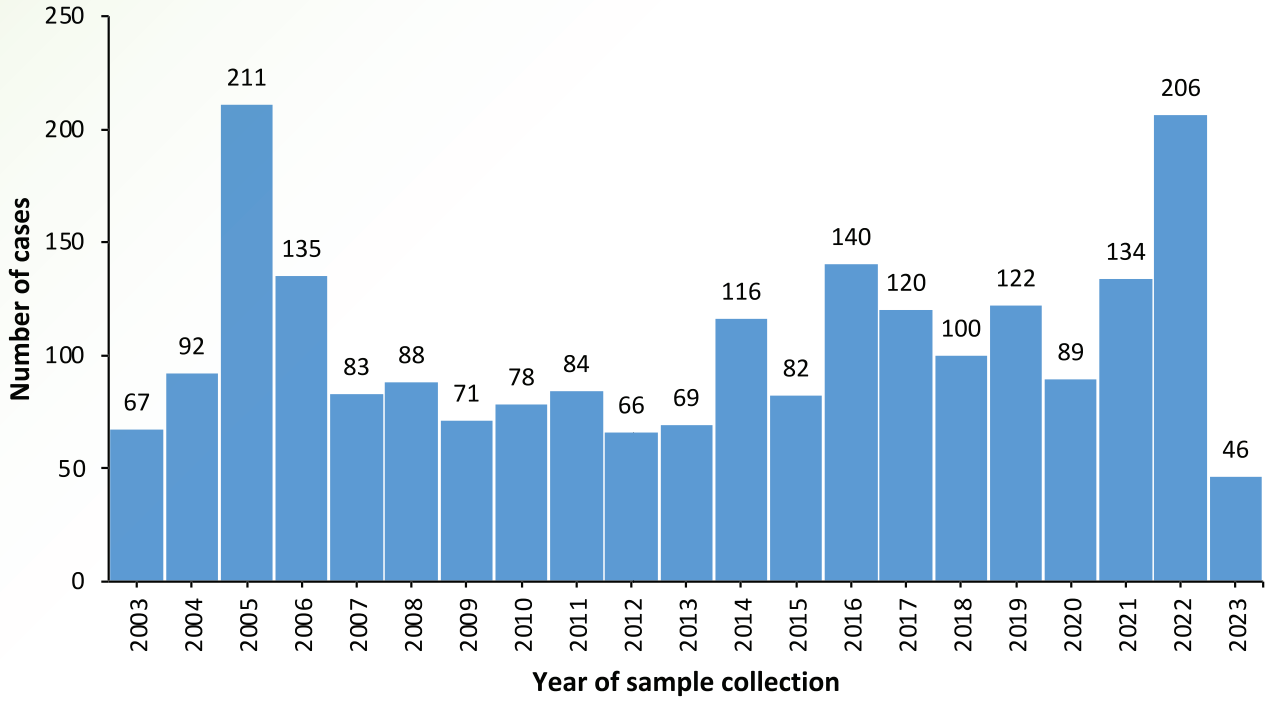

Figure 7. Number of laboratory-confirmed enteric fever cases by year of sample collection, 01 January 2003 – 31 March 2023, South Africa.

From 1 January through 31 March 2023, a total of 46 laboratory-confirmed enteric fever cases were reported from seven provinces. Gauteng Province accounted for 54% (25/46) of the cases followed by Western Cape (7/46, 15%) and KwaZulu-Natal (5/46, 11%) provinces. Cases were identified in both public (39/46, 85%) and private (7/46, 15%) health sectors. Where age was recorded, age ranges from 1 to 65 years with a median age of 19 years. Half of the cases were aged 15-49 years (51%, 23/45), 42% were aged ≤15 years (19/45) and 7% aged 50-64 years (3/45). Males accounted for 67% (31/46) of the cases. To date, 89% (41/46) of the isolates have been received, with whole-genome sequencing (WGS) completed on 12% (5/41) of these.

As previously reported, the increase in the number of cases in Gauteng and North West provinces since 2020 is driven by specific clusters (outbreaks) as defined by the genetic relatedness of isolates on core-genome multilocus sequence typing (cgMLST) analysis of WGS data. The first identified case in all clusters occurred in 2020.

Update on North West Province cluster

The Klerksdorp cluster strain has also been identified in cases from other provinces. The outbreak is still active, and cases identified from October 2022 to date are mostly from Gauteng Province. As at 31 March 2023 there are 76 confirmed Klerksdorp cluster strain cases across six provinces (NW=36; GP=27; MP=6, KZN=3; FS=2; WC=2). Eighteen new cases in this cluster were identified through cgMLST in the first quarter of 2023 (13 in GP; 2 in WC; 1 in NW; 1 in MP; 1 in KZN) (Figure 8). The latest case was identified in Gauteng (West Rand) on 5 January 2023. WGS data are pending for isolates received from 19 January 2023 onwards.

ENTERIC DISEASES

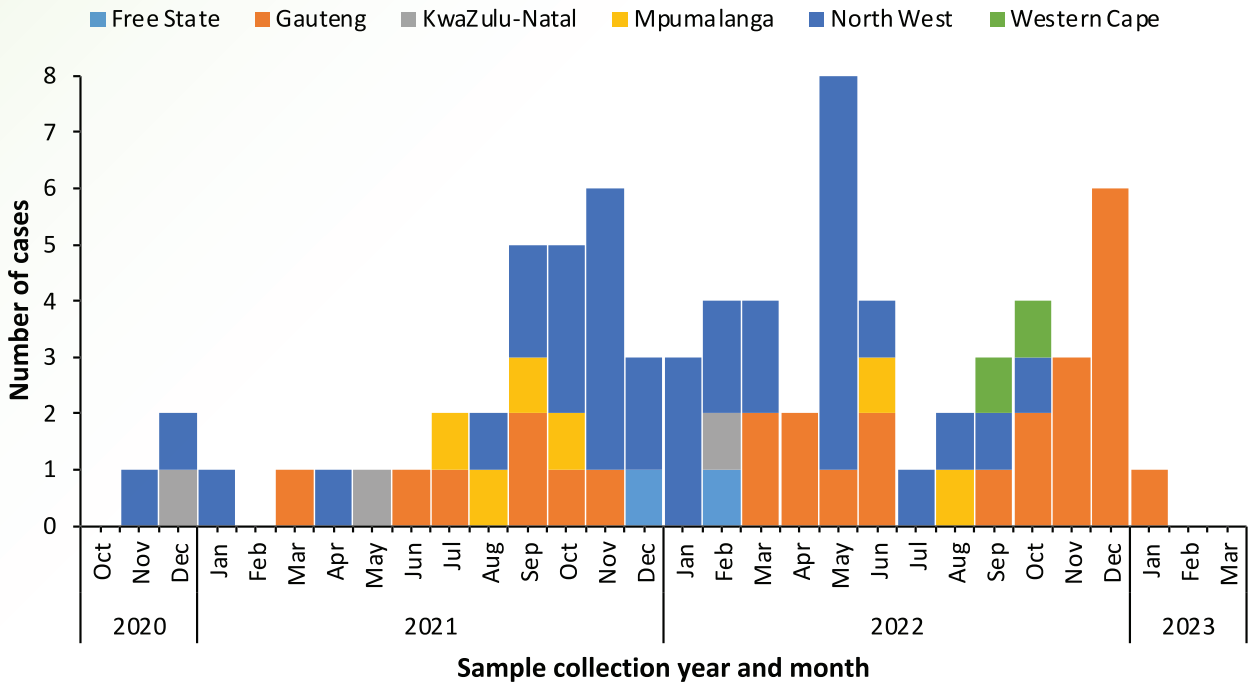

Figure 8. Number of laboratory-confirmed enteric fever cases in the Klerksdorp cluster by month of sample collection and province of residence, 1 January 2020 – 31 March2023), South Africa (N = 76).

Update on Gauteng clusters

On cgMLST analysis of WGS data, two closely related but distinct clusters have been identified in Gauteng Province. The first Gauteng cluster consists of 32 cases, detected from January 2020 through October 2022. Most cases in this cluster were reported from the City of Tshwane Metro (78%, 25/32), with half (53%, 17/32) of the cases aged ≤15 years. This cluster includes cases from the Hammanskraal area identified from May through September 2022, as described previously. The second Gauteng cluster consists of 12 cases detected from June 2020 through April 2022. No new cases belonging to either cluster was identified in the first quarter of 2023.

Outbreak investigations are ongoing for all clusters. Previous in-depth interviews of 26/35 Klerksdorp cluster cases showed an association with consumption of contaminated water in illegal gold mines located in Klerksdorp, but more recent cases linked with this cluster have been reported from other provinces (predominantly Gauteng) and it's likely that multiple chains of transmission and sources have been established. No definite source(s) of infection have been identified for the Gauteng clusters. Contamination of municipal water is very unlikely to be the source of infection in any of the clusters described, and the ongoing challenge in identifying source(s) of infection attests to the complex epidemiology and range of transmission pathways for this pathogen.

Source: Centre for Enteric Diseases, NICD-NHLS; NICD-Core sequencing facility; lindae@nicd.ac.za, phutis@nicd.ac.za, junot@nicd.ac.za

HIV/STIs

Trends in bacterial vaginosis positivity by HIV status, 2019-2022

Bacterial vaginosis (BV) is the commonest cause of vaginal discharge syndrome (VDS) among women of reproductive age. In South Africa, BV is managed using the syndromic management strategy for VDS. Sentinel microbiological STI surveillance is conducted annually at a primary health care clinic in each of three provinces - Gauteng (GP), KwaZulu-Natal (KZN) and Western Cape (WC) - to provide data on the aetiology of VDS. Women presenting with VDS are enrolled and appropriate genital and blood specimens are collected for laboratory testing. Data on trends in BV positivity by HIV status during 2019-2022 are presented.

A total of 870 women were enrolled, the median age was 29-years (IQR 24-35-years), 26% were aged <25-years and 263 (31%) were HIV-positive. Overall BV positivity was 53%. One hundred and fifty-eight (60%) women who were HIV-positive had BV compared to 297 (51%) women who were HIV-negative and BV positive (p=0.011). BV positivity was high (>40%) regardless of HIV status and sites. BV positivity showed an increasing trend from 2019-2022 in all sites and HIV groupings except at the KZN site. GP and WC sites showed increased proportions of BV among HIV-positive women in contrast to the KZN site where the proportion of BV positivity was greater among HIV-negative women.

BV positivity increased by year in these sites. However, it is common in HIV-positive women. Thus, educational intervention on preventative measures against BV should be emphasized. These include avoiding having multiple sexual partners, using condoms and having good vaginal care practices.

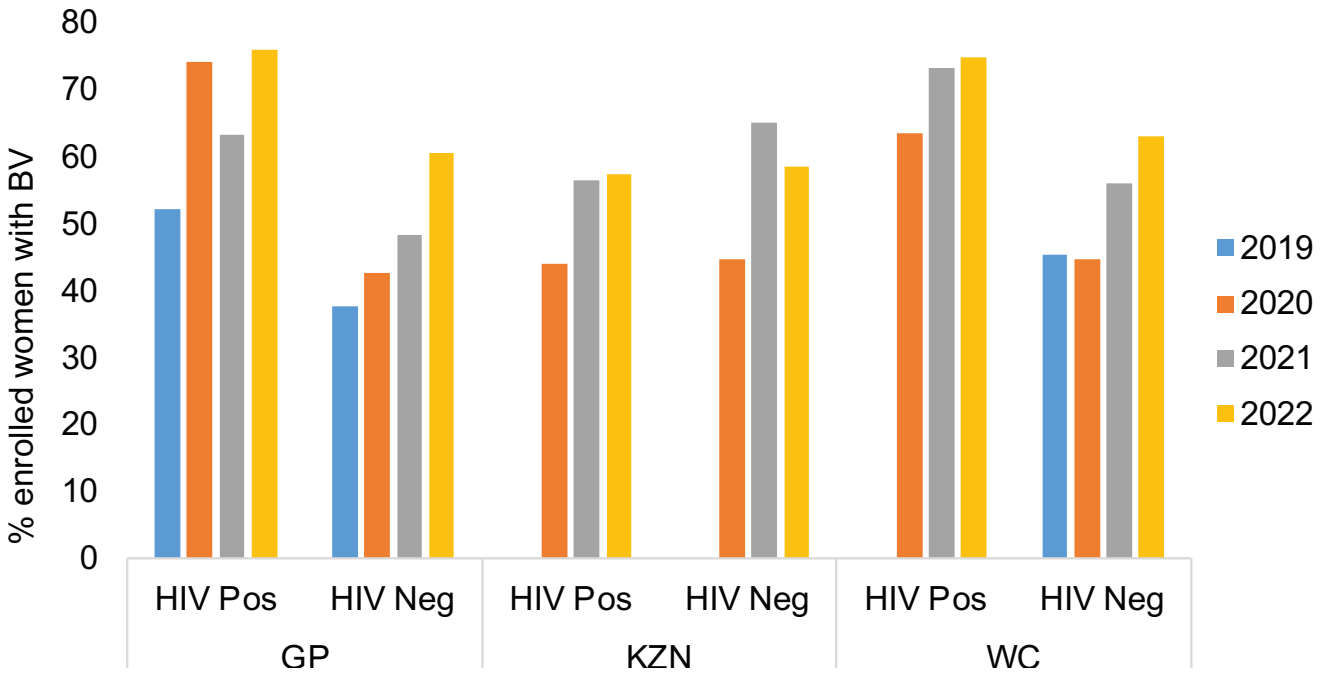

Figure 9. Trends in bacterial vaginosis positivity by HIV-status at three sentinel sites in South Africa, 2019-2022, N=870

Source: Centre for HIV & STIs, NICD-NHLS; windys@nicd.ac.za

VACCINES AND IMMUNOLOGY

Poliomyelitis update

The NICD polio laboratory is a WHO and SANAS accredited reference facility for acute flaccid paralysis (AFP) and environmental surveillance. As a national reference facility, the laboratory serves eight countries in Southern Africa, and as a regional reference facility serves at least six additional countries hosting national reference laboratories. From 1 January to 31 March 2023, the NICD received a total of 1 223 samples; 837 for virus isolation and 386 for molecular analysis. In South Africa, no polioviruses of programmatic importance were identified amongst AFP cases and in environmental samples collected from 16 sites in the five metropolitan districts. However, Sabin virus types 1 and 3 was identified in four environmental samples. Surveillance indicators of non-polio AFP isolation rate (WHO target 2/100 000 population under 5 years old) and case adequacy rate (WHO target 80%) by province are illustrated in Figure 10. Overall, from January to 31 March 2023, South Africa has met both targets.

Regionally in 2023, amongst AFP cases, the laboratory confirmed continued circulation of circulating vaccine-derived poliovirus type 1 (cVDPV1) in Mozambique and Madagascar, cVDPV2 in Burundi and Mali, and both cVDPV1 and cVDPV2 in the Democratic Republic of the Congo (DRC). In wastewater, cVDPV1 was detected in Madagascar and cVDPV2 in Botswana, Malawi, Burundi, DRC, and the Ivory Coast. Following the importation of wild poliovirus type 1 in Malawi and circulation in Mozambique in 2022, there were no detections in 2023.

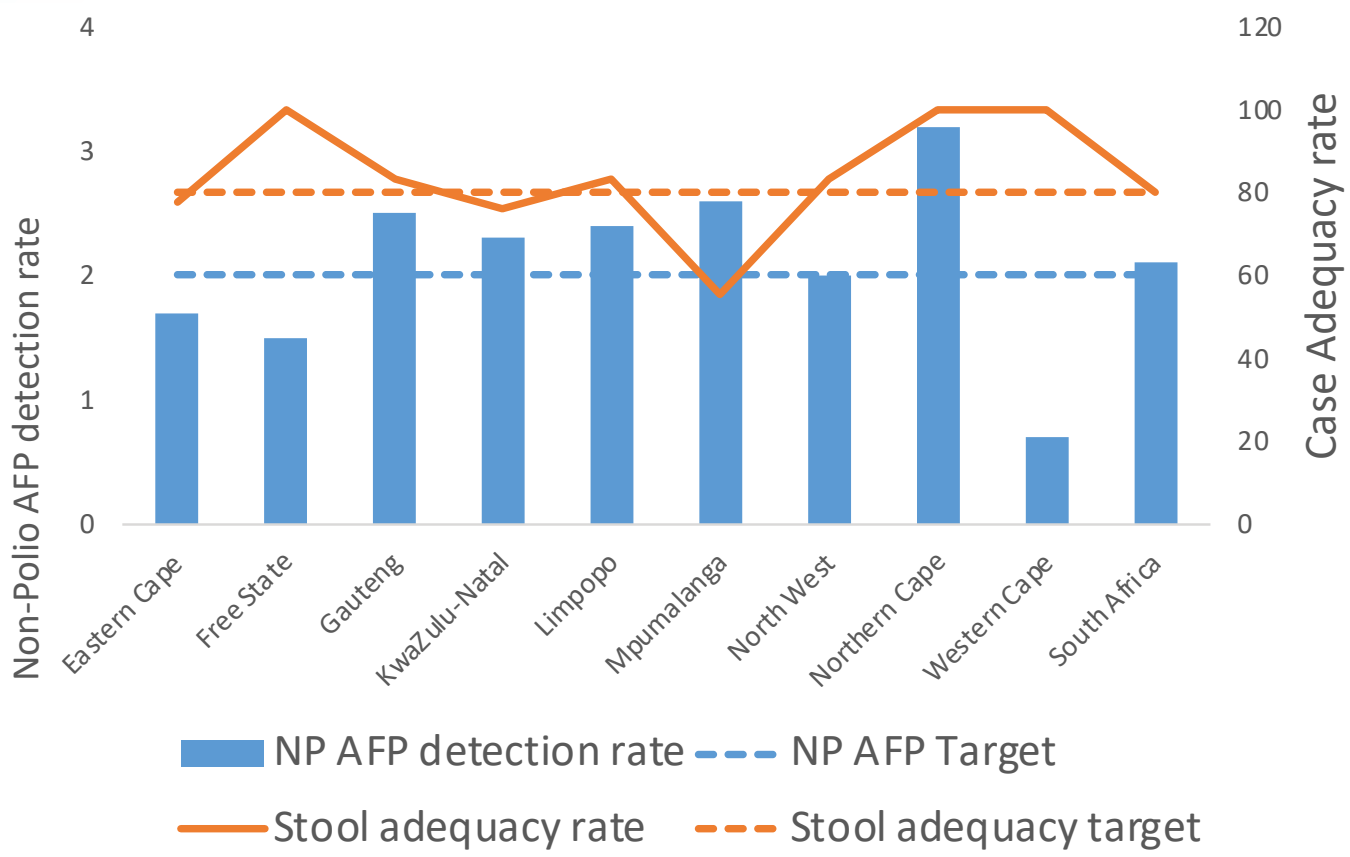

Figure 10. Surveillance indicators of non-polio AFP detection and case adequacy rates in South Africa, 1 Jan – 30 March 2023

Source: Centre for Vaccines and Immunology, NICD-NHLS; jackm@nicd.ac.za

BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current regional and international diseases that may affect South Africans travelling outside the country.

Mpox

According to the World health organization (WHO), As of 18 April 2023, the multi-country mpox outbreak accounted for a total of 87 039 laboratory-confirmed cases, 1 051 probable cases, and 120 deaths (CFR=0.1%) reported from 110 countries globally. The number of new cases increased by 24.1% in week 15 (10 - 16 April 2023) (n=103 cases) compared to week 14 (3 - 9 April 2023) (n=83 cases). The majority of cases reported in the past four weeks have been from the Region of the Americas (68.2%) and the Western Pacific Region (19.9%).

As of 18 April 2023, the 10 most affected countries globally were the United States of America (USA) (n=30 140), Brazil (n=10 900), Spain (n=7 549), France (n=4 144), Colombia (n=4 090), Mexico (n=3 956), Peru (n=3 800), United Kingdom (n=3 741), Germany (n=3 692), and Canada (n=1 480). Together, these countries accounted for 84.4% of the cases reported globally. In the most recent week of reporting (10 - 16 April 2023), 12 countries reported an increase in the weekly number of cases and only 28/110 (25.5%) countries have reported cases in the past 21 days.

The overall global risk assessment is Moderate, as four regions are currently at moderate risk, while the South-East Asia Region and Western Pacific Region are at low risk. The fourth meeting of the WHO International Health Regulations (IHR) Emergency Committee was held on 09 February 2023 and concluded that mpox still remains a Public Health Emergency of International Concern (PHEIC), and WHO has announced its upcoming fifth meeting of the IHR Emergency Committee regarding the multi-country outbreak of mpox to be held on 10 May 2023. In South Africa, the number of mpox cases remains unchanged at a total of five cases to date and the risk of assessment remains low. According to the South African government gazette published on 3 February 2023, mpox has been classified as a category 1 NMC. Therefore, clinicians are required to notify cases of mpox within 24 hours, in accordance with the current regulations.

Sources: https://worldhealthorg.shinyapps.io/mpx_global/| https://www.who.int/news/item/15-02-2023-fourth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox)| 5th Meeting of the International Health Regulations (IHR) Emergency Committee regarding the multi-country outbreak of mpox convened by the WHO Director-General on 10 May 2023.pdf| https://www.nicd.ac.za/diseases-a-z-index/monkeypox-2/

COVID-19

As of 19 April 2023, over 763.7 million confirmed cases of COVID-19 and approximately 6.9 million deaths have been reported globally since the start of the pandemic. During the last reporting 28-day period (20 March to 16 April 2023), there were 2.8 million new cases and over 18 000 deaths reported. This represents a decrease of 27% and 32%, in the number of new cases and new deaths, respectively, compared to the previous 28 days (20 February to 19 March 2023). During this period, four WHO regions reported a decrease in the number of new cases, while two regions reported an increase in the number of new cases, namely the South-East Asia Region at 654% and the Eastern Mediterranean Region at 96%. The number of new deaths also decreased across four WHO regions, while in South-East Asia Region and the Eastern Mediterranean Region it increased by 210% and 134%, respectively.

The countries which reported the highest numbers of new cases over the above 28-day period were: The United States of America (n= 432 798 new cases; -45%), the Republic of Korea (n= 286 182 new cases; +6%), the Russian Federation (n=259 138 new cases; -24%), %), France (n=219 428 new cases; +65%), and Brazil (n=212 578 new cases; +35%). The countries with the highest numbers of new deaths over the same period were the United States of America (n= 5 559 new deaths; -32%), Brazil (n= 1 177 new deaths; -26%), the Russian Federation (n= 994 new deaths; -4%), Germany (n= 813 new deaths; -58%), and the Islamic Republic of Iran (n= 754 new deaths; +193%).

There has been a recent emergence of a new variant named Omicron XBB.1.16, which resulted in an increasing number of new cases in India. As of 17 April 2023, Omicron XBB.1.16 has been found in 33 countries, including Singapore, Australia, the UK and the US. Among other symptoms of this new sub-variant (similar to other sub-variants), there are increasing reports of conjunctivitis in children.

BEYOND OUR BORDERS

COVID-19 continues to be a PHEIC according to the report of the 14th meeting of the IHR (2005) Emergency Committee regarding the COVID-19 pandemic, held on Friday 27 January 2023.

On 17 April 2023, WHO classified the new sub-variant of Omicron, XBB.1.16 as a variant of interest (VOI), however, the latest risk assessment showed no increase in disease severity compared to previously circulating variants.

Sources: https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---20-april-2023|https://covid19.who.int/table| https://www.who.int/docs/default-source/coronaviruse/21042023xbb.1.16ra-v2.pdf?sfvrsn=84577350_1

Marburg virus disease – African Region

Currently there are two ongoing Marburg virus disease (MVD) outbreaks reported. No link has been established between the two outbreaks.

Equatorial Guinea: Since the last update (21 March 2023) and at 15 April 2023, six additional laboratory confirmed cases of MVD have been reported in Equatorial Guinea. A total of 15 laboratory-confirmed cases and 23 probable cases since the outbreak declaration on 13 February 2023. A total of 11 deaths among the laboratory-confirmed cases have been recorded (CFR=78.6%) where one confirmed case the outcome is unknown. All probable cases were fatal. Four laboratory-confirmed cases (26.6%) involved healthcare workers, of whom two have died.

The Equatorial Guinea Health Office is rapidly scaling up mitigation strategies to halt the spread of the virus and end the outbreak. Active case search, contact tracing, isolation and supportive care are ongoing in Equatorial Guinea to prevent transmission and save lives. WHO is providing expertise, resources, training, and information distribution in Equatorial Guinea to aid in national response activities and ensure community engagement. WHO has collaborated with Equatorial Guinea health authorities to improve case management, infection prevention and control, healthcare worker and caregiver protection, safe and honourable burial practices, and community involvement in risk and safety issues.

Tanzania: After the initial report of the MVD outbreak on 16 March 2023, no new cases have been confirmed. The last report on 4 April 2023, reports the first recovered case discharged. Cumulative cases remain at eight confirmed cases with five deaths. The community struggles with misconceptions regarding the disease and experts have been deployed to offer support for mental health and psychosocial issues.

Source: https://apps.who.int/iris/bitstream/handle/10665/366975/OEW15-0309042023.pdf, https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON459

Cholera – African Region

The cholera outbreak in the African continent continues to evolve, currently with 15 countries affected. The Kingdom of Eswatini declared a cholera outbreak on 4 April 2023 after the confirmation of the disease in a traveller from a neighbouring country.

This further highlights the WHO recommendation for member states to enhance readiness, heighten surveillance and institute preventive and control measures at the points of entry to prevent and mitigate cross border infection.

Mozambique is conducting a cholera vaccine campaign, which started on 27 March 2023 with 1.7 million doses of vaccines against cholera received from UNICEF. WHO recently trained 220 health workers in Mozambique on critical aspects of response, including surveillance, infection prevention and control measures as well as clinical care. WHO has also provided tents, cholera treatment kits and medical supplies, with services to transport health professionals to the centres.

In South Africa, as of 13 April 2023, a total of 11 laboratory-confirmed cases and one death (CFR=9.1%) have been reported in Gauteng Province, in the City of Johannesburg (n=8) and Ekurhuleni (n=3) districts. South Africa has been working to strengthen its efforts towards cholera readiness, preparedness, and response activities since the last quarter of 2022, following an upsurge of cases in the African region. The multi-sectoral national outbreak response team (MNORT) has been activated since week 9 (26 February - 4 March 2023) in response to the identification of cholera cases in the country. Cholera situational reports have been disseminated by the Gauteng Department of Health every week since the recording of cholera cases in the country.

BEYOND OUR BORDERS

For cholera guidelines and other resources, visit: https://www.nicd.ac.za/diseases-a-z-index/cholera/.

Table 1. Cholera cases and deaths reported to WHO from African countries, as of 5 April 2023

Country	Cumulative Cases	Cumulative Deaths	CFR (%)	Reporting period
Burundi	232	1	0.4	08/12/2022 – 04/4/2023
Cameroon	15 322	311	2.0	01/10/2021 – 30/3/2023
Democratic Republic of Congo	30 057	349	1.2	01/01/2022 – 03/4/2023
The Kingdom of Eswatini	1	0	0	03/04/2023 – 05/4/2023
Ethiopia	2 757	57	2.1	01/08/2022 – 05/4/2023
Kenya	8 202	133	1.6	08/10/2022 – 04/4/2023
Malawi	56 763	1 722	3.0	01/03/2022 – 04/4/2023
Mozambique	22 482	97	0.4	01/09/2022 – 04/4/2023
Nigeria	24 435	617	2.5	01/01/2022 – 13/3/2023
Zambia	317	8	2.5	21/01/2023 – 04/4/2023
Somalia	4 032	15	0.4	01/01/2023 – 02/4/2023
South Africa	11	1	9.1	01/02/2023 – 4/3/2023
South Sudan	608	2	0.3	22/02/2023 – 27/3/2023
United Republic of Tanzania	72	3	4.2	01/02/2023 – 13/3/2023
Zimbabwe	237	2	0.8	12/02/2023 – 27/3/2023
TOTAL	**165 528**	**3 318**	**2.0**	

Sources: https://extranet.who.int/iris/restricted/bitstream/handle/10665/366745/AFRO%20Cholera%20Bulletin.06.pdf, https://reliefweb.int/report/somalia/weekly-choleraawd-situation-report-somalia-epidemiological-week-13-27-march-2-april-2023

Lassa fever – Nigeria

For the current epidemiological week 14 (3-9 April 2023), there have been 23 confirmed Lassa fever cases, resulting in a cumulative number of cases for 2023 to date at 4 555 suspected, 869 confirmed and five probable cases. A total of 151 deaths among confirmed cases were recorded (CFR=17.4%). For the same period during 2022 the totals were from 715 confirmed cases and 136 deaths CFR=19.3%).

For 2023 to date the cases were reported from 26 states that have recorded at least one confirmed case, with 71% reported from three states – Ondo (32%), Edo (28%) and Bauchi (11%). The predominant age group affected is 21-30 years (range 1 – 70 years), with the male-to-female ratio of 1:0.9.

The following response activities have been carried out so far, including conducting a Lassa fever risk assessment, IPC guideline review and dissemination, enhanced surveillance in affected states (contact tracing and active case finding), periodic implementation of vector control measures, ensuring confirmed cases are treated at identified treatment centres. There will also be mortality reviews of Lassa fever deaths and in-depth investigations into healthcare worker infections.

Some challenges to the outbreak response identified include late presentation of cases resulting in an increase in CFR, poor health-seeking behaviour owing to the high cost of treatment and management of Lassa fever. Poor environmental sanitation conditions and community awareness is observed in high burden areas, with lack of funding hindering preparedness and response activities in affected states.

Sources: https://ncdc.gov.ng/themes/common/files/sitreps/82ab3b38dcfb5e88463d82ffb21b3031.pdf

WHO AFRO UPDATE

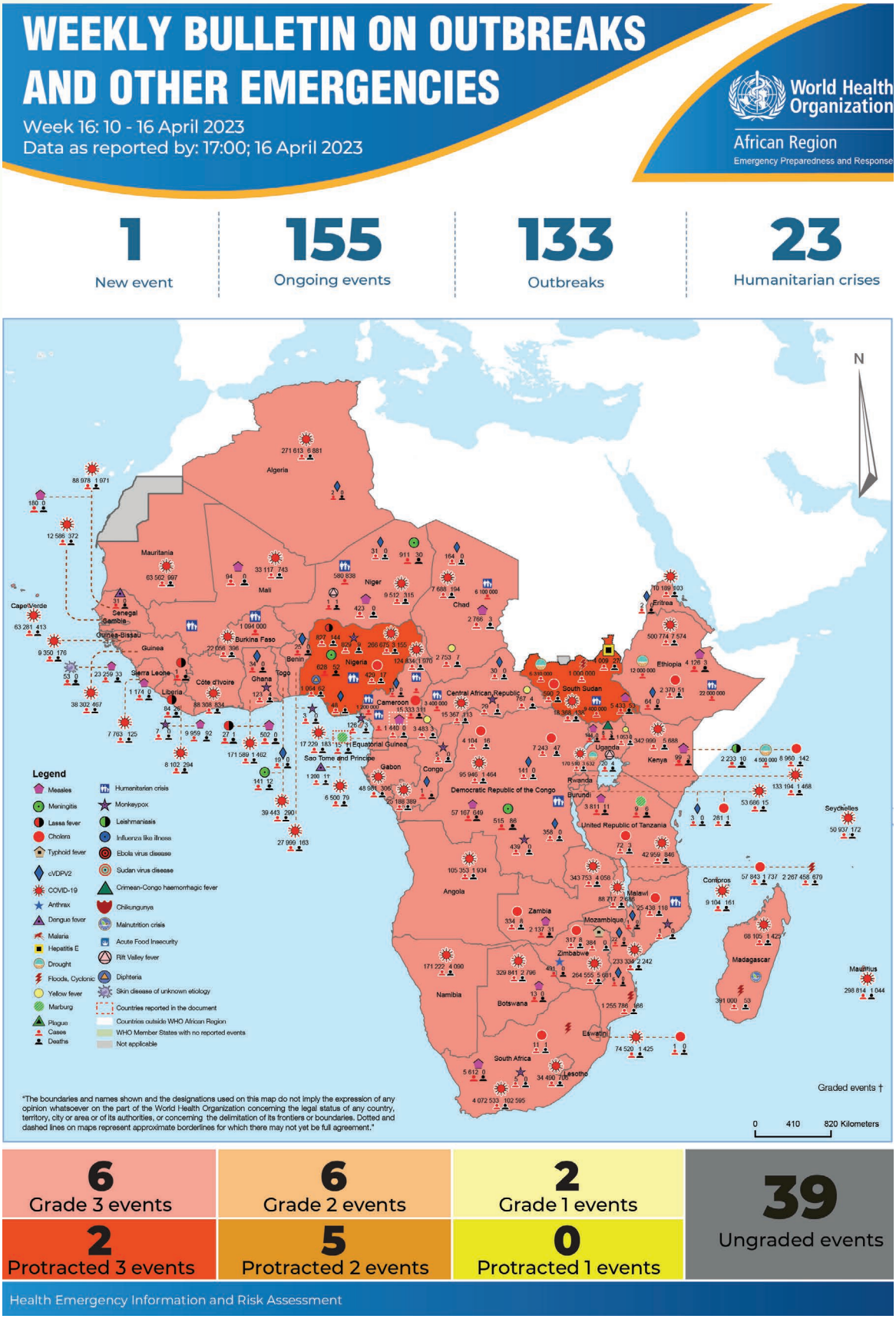

Figure 11. The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African Region. The African Region WHO Health Emergencies Programme is currently monitoring 155 events. For more information, see link below: https://www.afro.who.int/health-topics/disease-outbreaks/outbreaks-and-other-emergencies-update.